

Newcastle-on-Tyne No. 87728
 Lloyd's Register of Shipping.
 No. 155
 Sect. 11
 SURVEYS FOR FREEBOARD.

12 NOV 1961

| Computation of Freeboard for Steamer, Sailing Ship, Tanker | | | | | Port of Survey | |
|--|--|----------------------------------|---|---------------------------------|--|--|
| having <u>Peep, bridge and forecastle</u> | | | | | <u>Newcastle-on-Tyne</u> | |
| (Type of Superstructures.) | | | | | Date of Survey <u>3rd Nov = 1931</u> | |
| Ship's Name M.V. "CHEYENNE" | Nationality and Port of Registry <u>British</u> <u>Newcastle</u> | Official Number <u>161559</u> | Gross Tonnage <u>8825</u> | Date of Build <u>1930-11</u> | Name of Surveyor <u>J. Macdonald</u> | |
| Moulded Dimensions: Length <u>470.0</u> Breadth <u>63.5</u> Depth <u>34.75</u> | | | | | Particulars of Classification <u>100A1</u> | |
| Moulded displacement at moulded draught = 85 per cent. of moulded depth | | | | | <u>19730</u> tons | |
| Coefficient of fineness for use with Tables <u>.783</u> | | | | | Carrying <u>petroleum in bulk</u> | |
| Depth for Freeboard (D) | | | Depth correction | | Round of Beam correction | |
| Moulded depth <u>34.75</u> | | | (a) Where D is greater than Table depth (D - Table depth) R = <u>(34.82 - 31.33) 3.0 = + 10.47</u> | | Moulded Breadth (B) <u>63.5</u> | |
| Stringer plate <u>.07</u> | | | (b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>✓</u> | | Standard Round of Beam = $\frac{B \times 12}{50} = \frac{63.5 \times 12}{50} = 15.24$ | |
| Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ | | | If restricted by superstructures <u>✓</u> | | Ship's Round of Beam $16 \text{ in } 63.5' = 16.00$ | |
| Depth for Freeboard (D) = <u>34.82</u> | | | | | Difference <u>.76</u> | |
| | | | | | Restricted to | |
| | | | | | Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.76}{4} \times \left(1 - \frac{S_1}{L} \right) = .19 \times .6284 = -.12$ | |

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) |
|-------------------------|-------------------------|--|--------|-------------------|----------------------|
| Poop enclosed ... | 104.5 | 104.50 | 7'-9" | | 104.50 |
| " overhang ... | - | | | | |
| R.Q.D. enclosed ... | | | | | |
| " overhang ... | | | | | |
| Bridge enclosed... | 29.66 | 29.66 | 7'-9" | | 29.66 |
| " overhang aft ... | - | | | | |
| " overhang forward | - | | | | |
| F'cle enclosed ... | 40.50 | 40.50 | 7'-9" | | 40.50 |
| " overhang ... | | | | | |
| Trunk aft ... | | | | | |
| " forward ... | | | | | |
| Tonnage opening aft ... | | | | | |
| " " forward | | | | | |
| Total ... | 174.66 | 174.66 | | | 174.66 |

Standard Height of Superstructure 7.50

" " R.Q.D. -

Deduction for complete superstructure 42.0

Percentage covered $\frac{S}{L} = 37.16$

" " $\frac{S_1}{L} = 37.16$

" " $\frac{E}{L} = 37.16 \checkmark$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required))

Percentage from Table, ~~Line B~~ *Tanker* 28.16

(corrected for absence of forecastle (if required))

Interpolation for bridge less than .2L (if required) ✓

Deduction = $42.0 \times .2816 = -11.83 \checkmark$

SHEER CORRECTION.

| SHEER CORN | | | | | | | |
|---------------------|-------------------|-----|---------|-----------------|--------------------|-----|---------|
| Station | Standard Ordinate | S M | Product | Actual Ordinate | Effective Ordinate | S M | Product |
| A.P. ... | 57.0 | 1 | 57.00 | 70 | 70.00 | 1 | 70.00 |
| 1/2 L from A.P. ... | 25.36 | 4 | 101.44 | 30.5 | 30.50 | 4 | 122.00 |
| " ... | 6.27 | 2 | 12.54 | 7.5 | 7.50 | 2 | 15.00 |
| Midships ... | - | 4 | - | - | - | 4 | - |
| 1/2 from F.P. ... | 12.54 | 2 | 25.08 | 15.0 | 15.00 | 2 | 30.00 |
| " ... | 50.73 | 4 | 202.92 | 57.5 | 57.50 | 4 | 230.00 |
| F.P. ... | 114.0 | 1 | 114.00 | 132 | 132.00 | 1 | 132.00 |
| Total ... | | | 512.98 | | | | 599.00 |

$$\frac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}} = \text{Excess}$$
$$\frac{\text{Mean actual sheer forward}}{\text{Mean standard sheer forward}} = \text{Excess}$$

Length of enclosed superstructure
L forward of amidships = } Tanket - does
" " aft of " = } not apply.

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{86.02}{18} (.75 - .1858)$
 If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = Ft. 34.82

Summer freeboard = 6.84

Moulded draught (d) = 27.98

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7.00

Addition for Winter North Atlantic Freeboard (if required) = 4.70

Deduction for Fresh Water.

Displacement in salt water at summer load water line $\Delta =$ 18735 tons

Tons per inch immersion at summer load water line $T =$ 59.83

Deduction = $\frac{\Delta}{40T}$ inches = 7.83

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.783 + .68}{1.36} = \frac{1.463}{1.36}$

| | + | - |
|---|-------|-------|
| Depth Correction | 10.47 | - |
| Deduction for superstructures | - | 11.83 |
| Sheer correction | - | 2.70 |
| Round of Beam correction | - | .12 |
| Correction for Thickness of Deck amidships | - | - |
| Other corrections, scantlings, etc. | - | - |
| | 10.47 | 14.65 |

Summer Freeboard = 82.10

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

| Tropical Fresh Water Line above Centze of Disc ... | | | | 14 3/4" | Tropical Fresh Water Freeboard ... | 6' - 10" |
|--|-------|---|-----|---------|------------------------------------|-------------|
| Fresh Water Line | " | " | ... | 7 3/4" | Fresh Water | 5' - 7 1/4" |
| Tropical Line | " | " | ... | 7" | Tropical | 6' - 2 1/4" |
| Winter Line | below | " | ... | 7" | Winter | 6' - 3 1/2" |
| Winter North Atlantic Line | " | " | ... | 11 3/4" | Winter North Atlantic | 7' - 5 1/2" |

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Lloyd's Register
Foundation

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

| HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS | | | | | | | | | | |
|---|-----------------------|-------------------------|-----------------------------|---------------------------------|-------------------|--|----|--|--|--|
| Description of Hatchway | | Upper DK Cargo hatch | Upper DK oil tight cargo | Poop DK Store room hatchways | | on upper deck used as poop oil tight oil fuel | | | | |
| Dimensions of Hatchway | | 6'-9" x 10'-0" | 30 @ 6'-0" x 4'-0" | 2 @ 2'-6" x 2'-6" | 1 @ 3'-0" x 3'-0" | 2 @ 2'-6" x 2'-1" | | | | |
| COAMINGS | Height above Deck | 30" | 30" | 30" | 30" | 12" | | | | |
| | Thickness | Sides | 44 | 40 | 44 | 44 | 40 | | | |
| | | Ends | 44 | 40 | 44 | 44 | 40 | | | |
| | | Stiffeners | one @ side | - | - | - | - | | | |
| | Brackets, Stays | - | - | - | - | - | | | | |
| HATCH BEAMS | Number | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| | Spacing | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| FORE AND AFTERS | Scantling and Sketch | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| | Bearing Surface | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| HATCH COVERS | Number | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| | Spacing | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| HATCH COVERS | Unsupported Lengths | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| | Scantling* and Sketch | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| HATCH COVERS | Bearing Surface | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| | Material | Steel | Steel | Steel | Steel | Steel | | | | |
| HATCH COVERS | Thickness | 3/4 with 5 | 50 | 30 | 30 | 50 | | | | |
| | How fitted | @ 5" x 3" x 40 | Swiss hinges | ✓ | ✓ | ✓ | | | | |
| HATCH COVERS | Bearing Surface | angle stiffeners | covers | ✓ | ✓ | ✓ | | | | |
| | Spacing of Cleats | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Number of Tarpaulins | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |

*Are wood fore and afters steel shod at all bearing surfaces?
Are battens and wedges efficient and in good condition?
Are tarpaulins in good condition and in accordance with rule requirements?
Are lashings provided in accordance with rule requirements?

} all steel covers.

Particulars of fiddley, funnel and ventilator coamings:— *Hinged steel plate covers over gratings on fiddley tops.*

Tunnel on casing top 10'-0" above poop deck.

2 device post-ventilators on casing top

4 @ 24" diam

2 @ 21' -

Sidley casing top 10'-0" high above poop deck..
no closing appliances fitted. Connected to casing
top with rivets about 6 diameters apart.

Particulars of Flush Bunker Scuttles:—

nil.

Particulars of Companionways:— Forward pump room - trunked hatchway 3'-0" x 3'-0". Coaming 2'-6" high, 1/4" thick. 30 steel en.

Rain pump room = Deckhouse 9'-0" x 20'-0" x 6'-10" high. 50" deep angle coaming and 38" plating, 18" high in way opening - deep angle 6" high. Stiffeners 7 x 3 1/2 x 46 angles spaced 30" apart with top & bottom brackets.

Ford- cofferdam = 2 manholes 2'3" x 15" with coaming 2'-6" high and steel w.t. covers.
aff- " = 2 " " " " " " " " " " " "

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

| | | | |
|--------------|--|--|--|
| on poop deck | <ul style="list-style-type: none"> 1 @ 15" dia^l, coaming 36" high x 40 thick 2 @ 9" " " " .38 1 @ 6" " " " .32 2 @ 8" " " = tube to boat DK .30 thick 2 @ 8" mushroom 2'-3" high .32 | On forecstle deck { <ul style="list-style-type: none"> 1 @ 15" dia^l coaming 36" high and .38 thick 2 @ 9" " " 36" " .32 | on upper deck { <ul style="list-style-type: none"> 1 @ 15" dia^l " 36" " .38 1 @ 12" " " 36" " .38 |
|--------------|--|--|--|

2 to main pump room = derrick posts

Ventilators connected to deck with $\frac{3}{4}$ " rivets 4 dia^l apart.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

on poop deck: - 16 Swan neck air pipes 22" high, 3" dia.

On upper deck { aft cofferdam
Forward — —

10

2

一

2

cks: —

~ pipes 22' high, 3" dia. } Wrought iron pipe
" 24' " x 6" x 4" oval } with cast iron heads.
" 36' " x 2 1/2' dia. " " " "
Closed with wood plugs & canvas covers

Particulars of Gangway Cargo and Coaling Ports:—

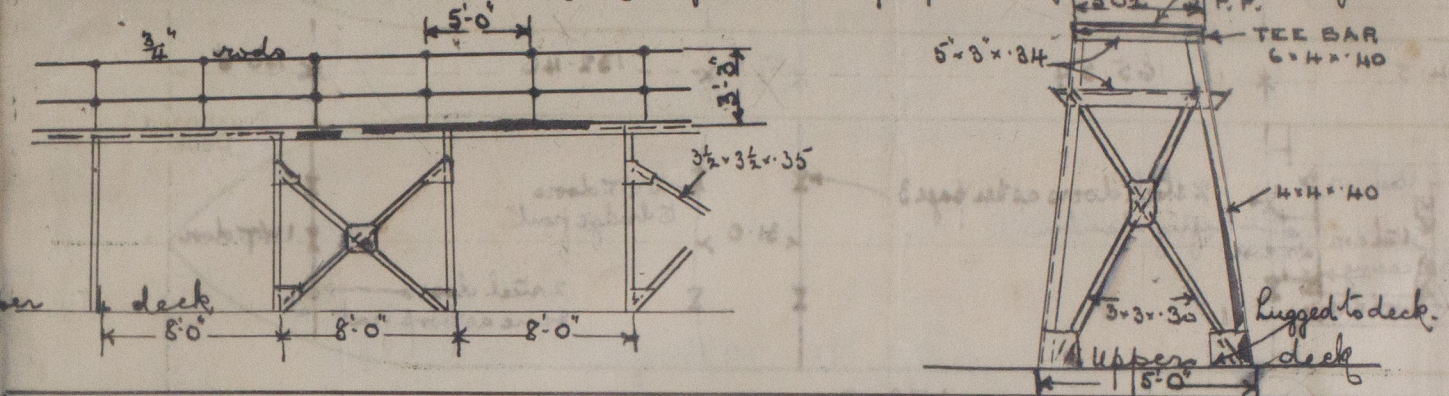
nil.

Cheyenne

Particulars of Scuppers and Sanitary Discharge Pipes — 1 bridge deck scupper @ side discharging above upper deck wrought iron pipe 2" dia.
9 Collinsons scuppers @ side from upper deck through ship's sides.
3 scuppers @ side from poop deck through ship's side above freeboard deck — wrought iron 2" dia.
5 @ sides @ 4" dia sanitary pipes (with storm valves) discharging below upper deck and 12 @ 2 1/2" dia with storm valves of gun metal.
Particulars of Side Scuttles: Nil

Particulars of Guard Rails: — Round poop & forecastle, stanchions about 4'-6" apart with 3 rails 3'-6" high.
Bulwark plate round bridge deck 3'-9" high.

Particulars of Gangways, Lifelines, etc.: — 8 and 2 gangways between poop & bridge and bridge & forecastle at level of these decks.



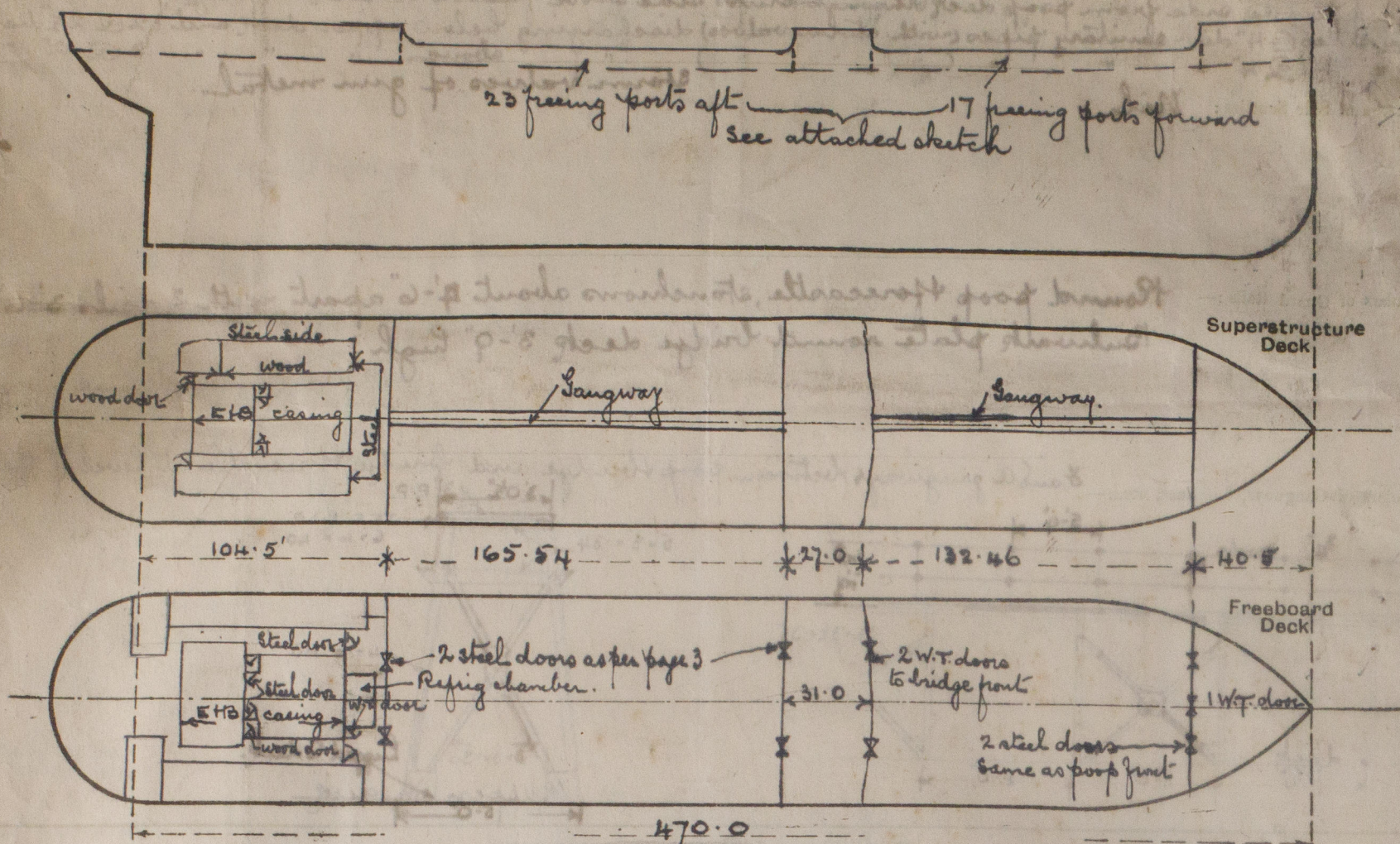
| Particulars of Freeing Arrangements. | | | | | | |
|--|-------------------|-------------------|--|------------------|----------------|---------------------|
| | Length of Bulwark | Height of Bulwark | Size of Freeing Ports | Number each side | Area each side | Rule area each side |
| After Well | 165.54 | 3'-6" | 61.92' of rails 5'-0" x 8" with 4" radius 2'-6" x 8" at ends | 14 | 37 1/2 | 50% of rule |
| Forward Well | 132.46 | 3'-6" | 49.5' of rails 5'-0" x 8" — do — 2'-6" x 8" — do — | 11 | 31 1/2 | 50% of rule |
| State position of each freeing port } After Well: — position as per profile sketch (10 3/4" above deck) enclosed. (F. and A. position and height above deck edge) } Forward Well: — " " " " " " State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — nil " " " " " Additional area where sheer is less than standard. | | | | | | |

| Particulars of Superstructures, Trunks, Casings, Deckhouses. | | | | | | | | |
|--|---------------|-----------|-----------------------------------|---------|---|--|-----------------|-------------------|
| | Coaming | Plating | Stiffeners | Spacing | End Attachments of Stiffeners | Size of Openings | Height of Sills | Height of Casings |
| Poop Bulkhead | 50 deep angle | 44 | 10" x 3 1/2" x 40 | 31" | Bracket plates | 2 @ 4'-1" x 3'-1" | 18" | 7'-9" |
| Raised Quarter Deck Bulkhead ... | — do — | 30 | 4" x 3" x 32 | 30" | — do — | — do — | — do — | — do — |
| Bridge, After Bulkhead | — do — | 48 | 10" x 3 1/2" x 40 | 30" | — do — | 2 @ 5'-0" x 2'-6" | — do — | — do — |
| Bridge, Forward Bulkhead | — do — | 30 | 4" x 3" x 32 | 30" | — do — | { 2 @ 4'-1" x 3'-1" 1 @ 4'-9" x 2'-3" | — do — | — do — |
| Forecastle Bulkhead | 36 deep angle | 30 | 4" x 3" x 32 | 30" | — do — | — do — | — do — | — do — |
| Trunk, Aft | | | | | | | | |
| Trunk, Forward | | | | | | | | |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks ... | | | | | | | | |
| Exposed Machinery Casings on Superstructure Decks covered by deckhouse | 18" x 36" | 26 and 30 | 3" x 2 1/2" x 30 | 30" | Brackets at upper end | 4'-11 1/2" x 2'-2" | — do — | 10'-0" |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | 18" x 36" | 26 | 3" x 2 1/2" x 30 and 6" x 3" x 40 | 30 | Brackets at upper end of large stiffeners | 4'-10 1/2" x 2'-2" | — do — | 7'-9" |
| Deckhouses on Flush Deck Ships ... | | | | | | | | |

| Particulars of Closing Appliances (state if capable of being manipulated from both sides). | |
|--|---|
| Poop Bulkhead | 44 steel plate with 1 stiffener, fastenings hook bolts 12" apart thro' door plate only manipulated from outside. |
| Raised Quarter Deck Bulkhead ... | 44 steel plate with 1 stiffener, fastenings hook bolts 12" apart thro' door plate only, manipulated from outside. |
| Bridge, After Bulkhead | W.T. doors manipulated from both sides. |
| Bridge, Forward Bulkhead | One W.T. door and two same as poop bulkhead — manipulated from one side only. |
| Forecastle Bulkhead | — do — |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks ... | — do — |
| Exposed Machinery Casings on Superstructure Decks | Casings with 2 steel doors covered by deckhouse with 4 hinged wood doors. |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | One steel W.T. door at fore end also 1 steel door on port & starboard sides manipulated from both sides. |
| Deckhouses on Flush Deck Ships ... | — do — |

Cheyenne

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



Freeing port area aft well length 165.54'
 Openings 61.92' = $\frac{123.84}{41.70 \times \frac{3.5}{L}} = 36.5p$
 Area PP $\frac{37}{1.7} = 21.7$

State any special features in the construction of the ship:—

footwell 132.46'
 Open masts 22.00' = 20.3p
 Area PP $\frac{31}{1.7} = 18.2$

Displacement:

Given on 1906 Report.

28' draft 18,584 tons } 718 tons
 27' " 17,866 " }
 26' " 17,148 " }

.85 mid depth = 29.53'
 Keel = 23'
 29.76'

Diff. Δ from 28'-0" = $718 \times 1.76 = 1264$ tons

Δ @ 29.76 draft = $\frac{18,584}{1264} = 14.7$

19,848 tons $\times .994 = 19,730$ tons

Δ @ summer load draft of 27.98 mds (= 28.21 feet)
 = $18,584 + .21 \times 718 = 18,735$ tons

Builder's name and yard number

Palmers' No. 1001 M.V. "CHEYENNE"

Names of sister ships

Owners

Anglo-American Oil Co. Ltd.

Fee £

16 : 3 : 0

Received by me

29/4/32 from London

[Signature]



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